

CLAIMS

What is claimed is:

- 1 1. A gasoline-oxygenate blend, suitable for combustion in an automotive engine, having the
2 following properties:
 - 3 (a) a Dry Vapor Pressure Equivalent less than about 7.1 PSI; and
 - 4 (b) an alcohol content greater than about 5.8 volume percent.
- 1 2. The blend of Claim 1 wherein the blend has a 50% distillation point less than about
2 195°F.
- 1 3. The blend of Claim 1 wherein the blend has a 10% distillation point less than about
2 126°F.
- 1 4. The blend of Claim 1 wherein the blend has an anti-knock index greater than or equal to
2 about 89.
- 1 5. The blend of Claim 1 wherein the blend is capable of reducing toxic air pollutants
2 emissions by more than about 21.5%.

1 6. The blend of Claim 5 wherein the blend is capable of reducing toxic air pollutants
2 emissions by more than about 30%.

1 7. The blend of Claim 1 wherein the blend has an oxygen weight percent that is greater than
2 about 1.8 weight percent.

1 8. The blend of Claim 1 wherein the blend contains ethanol.

1 9. The blend of Claim 1 wherein the blend contains essentially no methyl t-butyl ether.

1 10. A gasoline-oxygenate blend, suitable for combustion in an automotive engine, having the
2 following properties:

3 (a) a Dry Vapor Pressure Equivalent less than about 7.2 PSI; and

4 (b) an alcohol content greater than about 9.6 volume percent;.

1 11. The blend of Claim 10 wherein the blend has a 50% distillation point less than about
2 178°F.

1 12. The blend of Claim 10 wherein the blend has a 10% distillation point less than about
2 123°F.

1 13. The blend of Claim 10 wherein the blend has an anti-knock index greater than about 89.

1 14. The blend of Claim 10 wherein the blend is capable of reducing toxic air pollutants
2 emissions by more than about 21.5%.

1 15. The blend of Claim 10 wherein the blend has an oxygen weight percent that is greater
2 than about 1.8 weight percent.

1 16. The blend of Claim 10 wherein the blend contains ethanol.

1 17. The blend of Claim 10 wherein the blend contains essentially no methyl t-butyl ether.

1 18. A gasoline-oxygenate blend, suitable for combustion in an automotive engine having the
2 following properties:

3 (a) a Dry Vapor Pressure Equivalent less than about 7 PSI; and

4 (b) an alcohol content greater than about 5.0 volume percent.

1 19. The blend of Claim 18 wherein the blend has a 50% distillation point less than about
2 250°F.

1 20. The blend of Claim 18 wherein the blend has a 10% distillation point less than about
2 158°F.

1 21. The blend of Claim 18 wherein the blend contains ethanol.

1 22. The blend of Claim 18 wherein the blend contains essentially no methyl t-butyl ether.

Sub A1
23 A process for preparing a gasoline-oxygenate blend comprising blending at least two
2 hydrocarbon streams to produce a gasoline wherein the resulting gasoline-oxygenate blend has
3 the following properties:

4 (a) a Dry Vapor Pressure Equivalent less than about 7.1 PSI; and

5 (b) an alcohol content greater than about 5.8 volume percent.

1 24. The process of Claim 23 further comprising introducing ethanol during the blending.

1 25. The process of Claim 23 wherein the resulting blend contains essentially no methyl t-
2 butyl ether.

Sub A2
26. A process for preparing a gasoline-oxygenate blend comprising blending at least two
2 hydrocarbon streams to produce a gasoline wherein the resulting gasoline-oxygenate blend has
3 the following properties:

Sub A2

- 4 (a) a Dry Vapor Pressure Equivalent less than about 7 PSI; and
5 (b) an alcohol content greater than about 5.0 volume percent.

1 27. The process of Claim 26 wherein the resulting gasoline-oxygenate blend reduces toxic air
2 pollutants emissions by more than about 30%.

1 28. The process of Claim 26 further comprising introducing ethanol during the blending.

1 29. The process of Claim 26 wherein the resulting gasoline-oxygenate blend contains
2 essentially no methyl t-butyl ether.